

Module 6: Environmental Management Program(s)

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GUIDANCE

You will ensure the success of your EMS by developing support mechanisms to achieve your environmental policy, objectives, and targets. This module will cover planning for and setting up Environmental Management Programs, which are the support mechanisms you will use to help meet objectives.

Environmental Management Programs (EMPs)

EMPs consist of action plans that are necessary to achieve environmental objectives and targets. Therefore, your EMPs should be linked directly to your objectives and targets — that is, each EMP should describe how you will translate your goals and policy commitments into concrete actions so that environmental objectives and targets are achieved.

To ensure its effectiveness, each EMP should define:

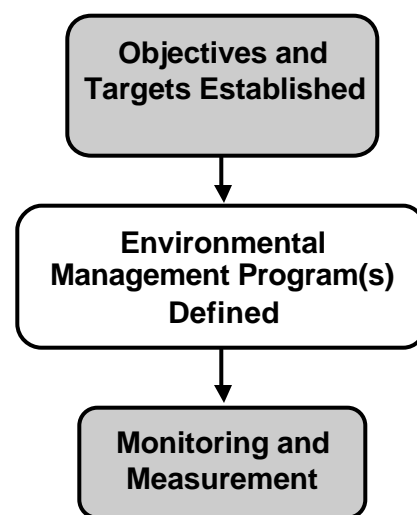
- the responsibilities for achieving objectives (who will do it?)
- the means for achieving objectives (how will they do it?)
- the time frame for achieving those objectives (when?)

Form 6-1, Sample Form for EMPs, shows how you might document EMP who, how, and when items.

Keep in mind that your EMP should be dynamic. Consider modifying an EMP when:

- objectives and targets are modified or added;
- relevant legal requirements are introduced or changed;
- substantial progress in meeting your objectives and targets has (or has not) been made; or
- your activities, products, services, processes, or facilities change or other issues arise.

Your EMP need not be compiled into a single document. A “road map” to several action plans is an acceptable alternative, as long as the key responsibilities, tactical steps, resource needs, and schedules are defined adequately in these other documents. **Tool 6-1, EMP Worksheet**, can help you begin to consider EMPs for your EMS.



EMPs should not be developed in a vacuum — they should be coordinated or integrated with other organizational plans, strategies, and budgets. For example, if you are planning for a major expansion in one of your service operations, then it makes sense to look at the possible environmental issues associated with this operational expansion at the same time.

Hints:

- Build on the plans and programs you have now for compliance, health & safety, or quality management.
- Involve your employees early in establishing and carrying out the program.
- Clearly communicate the expectations and responsibilities defined in the EMP to those who need to know.
- In some cases, an EMP may encompass a number of existing operating procedures or work instructions for particular operations or activities. In other cases, new operating procedures or work instructions might be required to implement the program.
- Re-evaluate your EMP when you are considering changes to your activities, products, services, processes, facilities or materials. Make this re-evaluation part of your change management process.
- Keep EMPs simple and focus on continual improvement over time.

There may be real opportunities here! Coordinating your EMP(s) with your overall plans and strategies may position your organization to exploit some significant cost-saving opportunities.

Environmental Review for New Products, Processes, and Activities

Change is an important part of business survival for most companies. Products, technologies, and ways of doing things are updated regularly.

To avoid creating new “significant environmental aspects” that must be addressed later, it is helpful to integrate new processes, products, and activities into the environmental efforts that you are developing for the rest of your company. You can do so by setting up a procedure for reviewing new processes, products, or activities while they are in the planning stage (see **Tool 6-2, Sample Procedure for Environmental Review for New Purchases, Processes, and Products**). The procedure can include a form that must be circulated among the people responsible for, or affected by, the new process or product, including those responsible for the area of the company where the new process or activity will be implemented. This form will then be signed by the appropriate parties to indicate that the environmental review has been completed in accordance with your procedure. **Form 6-2, Sample new Purchase Approval Form for Environmental Review of New Processes, Products, and Activities**, provides an example form that can be used with Tool 6-2.

Examples 6-1 and 6-2 continue the example of Outdoor Painting of Large Equipment and shows how two EMPs could be developed for environmental aspects and objectives and targets identified for this process in Modules 3 and 5.



TOOLS

This section provides worksheets and tools to develop an effective environmental management programs and EMS tracking systems for an environmental review process for **new processes, purchases, and products.**

Tool 6-1: Environmental Management Program(s) Worksheet

Do we have an existing process for establishing environmental management programs? If yes, does that process need to be revised? In what way?	
What environmental management programs do we have in place now ?	
What is the basis for our environmental management programs (for example, do they consider our environmental objectives, our environmental policy commitments and other organizational priorities)?	
Who needs to be involved in the design and implementation of these programs within our organization?	
When is the best time for us to establish and review such programs? Can this effort be linked to an existing organization process (such as our budget, planning or auditing cycles?)	
How do we ensure that changes to products, processes, equipment and infrastructure are considered in our programs?	
How will we otherwise keep our programs up-to-date ?	
<i>Our next step on environmental management programs is to ...</i>	

Form 6-1: Sample Form for Environmental Management Program(s)

Area/Department(s):

Process:

Significant Aspect:

Legal & Regulatory Requirement:

Objective:

Target:

Category :

☐

Control/Maintain

☐

Improve

☐

Study or Investigate

Action Plan:

Task/Action Items	Responsible Party	Responsibilities	Resources Needed	Project Start Date	Project Completion Date	Comments/Deliverables

Examples 6-1 and 6-2 provided completed examples of this form for SEAs identified in earlier modules.

Tool 6-2: Sample Procedure for Environmental Review for New Purchases, Processes, and Products

[Note: This procedure will almost certainly need to be substantially modified in order to fit the situation of your company. Smaller companies may not have a formal new product design or facilities engineering group, for example. The key is to find a way (that can be documented and verified, if possible) of ensuring that when new chemicals are being purchased, when new products are being developed, or when a facility is being substantially modified, environmental considerations are taken into account.]

Purpose

When purchasing new chemical supplies, modifying its processes, and making new products, [Your Facility's Name] strives to ensure that environmental considerations, particularly those related to significant environmental aspects (SEAs), are taken into account.

Procedure

1. When processing an order for a new chemical or other potentially harmful input, the purchasing manager clears the purchase with a member of the Cross Functional Team (CFT). The CFT member initials the box marked "environmental approval" in the New Purchase Approval Form (Form 6-2) to signify his or her approval of the purchase.
2. [Your Facility's Name] has a product development group (PDG) and a facilities engineering group. The PDG develops potential new products that [Your Facility's Name] could offer (sometimes these are identified by the sales and marketing group, sometimes they are identified internally). The facilities engineering group is responsible for reconfiguring (or, in some cases, expanding) the facility's production lines to produce new products.
3. The PDG notifies a member of the CFTe before final approval of a new product design. The CFT member reviews the design in light of the facility's SEAs and environmental objectives and targets. When the CFT member is satisfied that the new design is in accordance with the plant's environmental goals, he or she initials the appropriate box in the Design Approval Form that is sent to the president for approval.
4. The facilities engineering group is responsible for notifying a member of the CFT before final approval of any Facility Modification or Expansion Plan. (The Facility Modification or Expansion Plan is required for any facilities engineering job that costs more than \$20,000.) The CFT member reviews the plan in light of the facility's SEAs and environmental objectives and targets. When the CFT member is satisfied that the new design is in accordance with the plant's environmental management goals, he or she initials the appropriate box in the Facility Modification or Expansion Plan form that is sent to the operations manager for ultimate approval.

Frequency

As new chemicals are purchased, new products are developed, and/or production lines are modified.

Records

The New Purchase Approval Forms (Form 6-2) are maintained by the purchasing manager. The Design Approval Forms are maintained by the product development group. The Facility Modification or Expansion Plans are maintained by the facilities engineering group.

Form 6-2: Sample New Purchase Approval Form for Environmental Review of New Processes, Products, and Activities

This is an example of a sign-off form that can be used for such reviews. It is a model that should be modified to reflect your company's activities and environmental policy.

Functional	New Process, Product, or Activity	Environmental Review by	Environmental Effects	Pollution Prevention Opportunities
		Manager/Date		
Contact for form:			Date Completed:	



EXAMPLES

Example 6-1: EMP for Reduction of Fugitive VOC, HAP, and Particulate Emissions

Note: This example continues Outdoor Painting of Large Equipment, Example 3-2, Identification of Aspects and Significance Determination and Example 5-2, Objectives and Targets.

Functional Area: Production and Maintenance of Military Equipment (see Example 3-1) – Outdoor Painting

Activity or Process: Outdoor Painting of Large Equipment (Ship Painting Assumed for this Example (6-1))

Significant Environmental Aspect: Fugitive VOCs, HAPs, and particulates

Legal & Regulatory Requirement: Marine Coating Rule, permits to operate, toxic air emissions rule

Objective: Reduce Fugitive VOC, HAP, and particulate emissions

Target: 10% Reduction by January 2004 (relative to year 2000 baseline)

Category:

☒

Control/Maintain

☒

Improve

☐

Study or Investigate

No. 1 Action Plan: Substitution of Raw Materials

Task/Action Items	Responsible Party	Resources Needed	Project Start Date	Project Completion Date	Comments (C)/Deliverables (D)
Identify list of suitable vendors that supply low VOCs paint	John Smith, Environmental Manager	MSDS Paint Mfg. Assoc,	March 1, 2002	April 1, 2002	D – List of potential vendors of low-VOC paint

Task/Action Items	Responsible Party	Resources Needed	Project Start Date	Project Completion Date	Comments (C)/Deliverables (D)
Develop evaluation of technical feasibility and cost effectiveness of select paint products.	Cross Functional Team	Testing by paint personnel, customer approval	May 1, 2002	July 1, 2002	D – Comparative cost analysis of select low-VOC paint application D – Technical feasibility analysis of select low-VOC paint application

No. 2 Action Plan: Process Modification

Task/Action Items	Responsible Party	Resources Needed	Project Start Date	Project Completion Date	Comments (C)/Deliverables (D)
Identify process modification that can be done to reduce emissions of VOCs, HAPs, and particulates	John Smith, Environmental Manager	Eng. Dept, vendor proposals	August 1, 2002	August 31, 2002	D – List of potential process modification
Develop preliminary evaluation on technical feasibility and cost effectiveness of process modification alternatives	John Smith, Environmental Manager	Vendor quotes, est. of reductions from support agency	September 1, 2002	September 30, 2002	D – Technical feasibility report of process modification alternatives D – Comparative cost analysis of process modification alternatives
Conduct pilot test of the preferred alternative of process modification	Kim Weinstein, Environmental Department	Process and eng. dept.	October 1, 2002	January 1, 2003	D – Workplan of the pilot test D – Weekly progress report of the pilot test D – Final report and recommendation
Full scale implementation	John Smith and Will Gibson (Paint Department)	Training by vendor, testing	February 2003		D – Quarterly progress and performance report

Example 6-2: Environmental Management Program for Solid Waste Reduction from the Unmasking Activity

Functional Area: Production and Maintenance of Military Equipment (see Example 3-1)

Activity or Process: Outdoor Painting of Large Equipment

Significant Aspect: Solid waste from the unmasking activity (when masking materials are removed from the item that was painted)

Legal & Regulatory Requirement: Yes (40CFR, State rules and regulations, Company Directive)

Objective: Study Waste Reduction

Target: Complete study by April 2003

Category: ☐ Control/Maintain ☐ Improve ☒ Study or Investigate

No. 1 Action Plan: Study of Potential Waste Reduction

Task/Action Items	Responsible Party	Resources Needed	Project Start Date	Project Completion Date	Comments (C)/Deliverables (D)
Identify potential waste reduction initiatives	John Smith, Environmental Manger	Web sites on poll. Prevention	August 1, 2001	October 1, 2001	D – List of steps to be taken to fulfill initiative and responsibilities
Identify list of suitable technology to achieve volume reduction	Cross-Functional Team	Vendors	October 1, 2001	October 31,, 2001	D – List of potential technology
Identify list of suitable vendors to supply technology for volume reduction	Cross-Functional Team	Vendors, testing with plant personnel	November 1, 2001	November 31, 2001	D – list of potential vendors of compactors and waste compaction technology
Develop evaluation on technical feasibility and cost effectiveness of select	Cross-Functional Team	Acctg. Dept. input, data from env.	December 1, 2001	February 1, 2002	D – Comparative cost analysis of compactor technology D – Technical feasibility analysis of select

EMS Template
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Task/Action Items	Responsible Party	Resources Needed	Project Start Date	Project Completion Date	Comments (C)/Deliverables (D)
compacting products (continued from previous page)		dept on current masking waste volume			compactor technology
Present recommendation to management for waste reduction	Cross-Functional Team	Slide presentation, mtg time	March 1, 2002	March 31, 2002	D – list of evaluations and recommendations for waste reduction